

# **Characteristics of living things**

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- How many zeros in a trillion?

T w e l v e



- All living things, called **organisms**, are made up of one or more cells.
- Some are actually made of trillions of cells.
- Many cells = **multicellular**
- One cell = **unicellular**

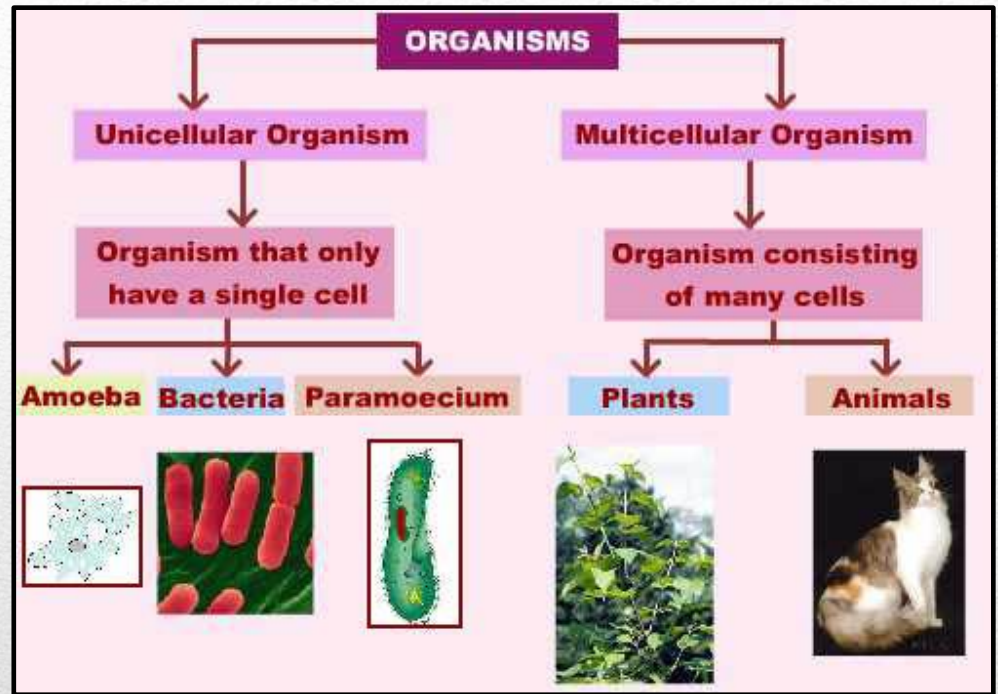
# Living Things

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With multicellular organisms different types of cells perform specific jobs.

With unicellular organisms different parts of the cell perform different functions.



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What advantage(s) might come with being multicellular?

What stimuli might cause an organism to react?



- All organisms have the ability to sense changes in their surroundings. They can also respond to that change.
- A change that causes a response is called a **stimulus** (plural = stimuli)
- Stimuli can be internal or external
  - Sound and hunger are two examples...

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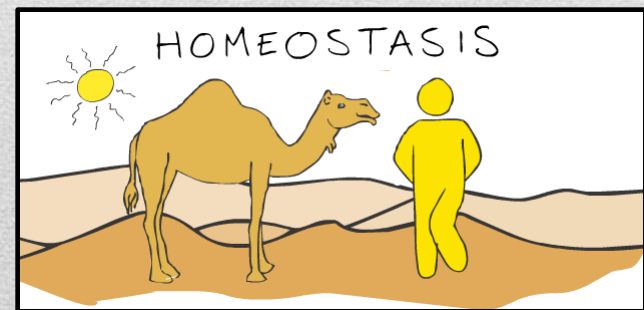
- Even though outside conditions may change, conditions inside the organism's body must stay the same.
- Maintaining a stable internal environment is called homeostasis

Which apply to the word homeostasis?

- Noun
- Verb
- Adjective
- Adverb
- Gerund

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- All living things reproduce. This is sometimes called the “biological imperative”.
- All life comes from life, and organisms make other organisms similar to themselves\*.
- Reproduction can happen one of two ways.

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## Sexual Reproduction

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- In science this means that each parent contributes (gives)  $\frac{1}{2}$  of their genes to produce offspring.
- (this is why children have characteristics of both biological parents)

## Asexual Reproduction

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- In science this means that a single parent makes an identical copy of itself. The offspring is just like the parent in every way.
- (this is the most common in single cells organisms)

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Did you know some organisms can do both types!?

## 3 Final Points

- Living things have DNA or RNA. This is the genetic information that they pass on to their offspring.
- Living things use energy to carry out life's activities. So obtaining energy is another imperative.
- Living things grow and develop.

Whether they are made of one cell or many cells, organisms undergo periods of growth. They may increase in size, and they may undergo changes as they do.

# Living Things

